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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/758,048

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Yoshiyuki Sasaki

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EXAMINER

GOMA, TAWFIK A

ART UNIT

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2627

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/758,048	Applicant(s) SASAKI, YOSHIYUKI	
	Examiner TAWFIK GOMA	Art Unit 2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 November 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8, 12-23, 25 and 27-30 is/are pending in the application.
- 4a) Of the above claim(s) 4-6, 13 and 15-19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 7, 8, 12, 14, 20-23, 25 and 27-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This action is in response to the amendment filed on 11/10/2008.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 7, 12, 20 and 27-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hashimoto (US 6172955) in view of Nakane et al (US 6463021).

Regarding claim 1, Hashimoto discloses a recording method for recording data in a recording area of an information recording medium (fig. 6), comprising: interrupting a formatting process and recording data (col. 7 lines 11-18). Hashimoto fails to disclose determining whether to perform a defect detection process on at least a portion of the recording area in which the data are recorded based on a predetermined determination criterion pertaining to recording attribute information of the data. In the same field of endeavor, Nakane discloses determining whether to perform a defect detection process on at least a portion of the recording area in which the data are recorded based on a predetermined determination criterion pertaining to recording attribute information of the data (1, 7, fig. 10 and col. 6 lines 57-65). It would have been obvious to one of ordinary skill in the art to modify the method disclosed by Hashimoto by providing the defect detection process of Nakane. The rationale is as follows: One of ordinary skill in the art at the time of the applicant's invention would have been

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motivated to provide a defect detection process including criteria for when to perform the process in order to minimize interruption of the recording operation for performing defect detection (see Nakane abstract).

Regarding claim 2, Nakane further discloses wherein the recording area includes an area on which the defect detection process is already performed at least once (col. 9 lines 64-67 through col. 10 lines 1-15). The defect detection process is performed for each sector in the recording area.

Regarding claim 7, Nakane further disclose wherein the defect detection process corresponds to a verification process (col. 10 lines 5-15).

Regarding claim 12, Hashimoto discloses an information recording apparatus that is adapted to record information on an information recording medium (fig. 1), said apparatus comprising: formatting means for performing a formatting process on the information recording medium (9, fig. 1 and col. 6 lines 63-67 though col. 7 lines 1-3), recording means for recording data on the information recording medium in after interrupting the formatting process in response to a recording request from an external apparatus (Host and col. 7 lines 11-18). Hashimoto fails to disclose determination means for determining after the recording of the data whether to perform a defect detection process on at least a portion of the recording area in which the data are recorded based on recording attribute information of the data. In the same field of endeavor, Nakane discloses determination means for determining after the recording of the data whether to perform a defect detection process on at least a portion of the recording area in which the data are recorded based on recording attribute information of the data. (12, fig. 1

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and figs. 2 and 10). It would have been obvious to modify the apparatus of Hashimoto by providing the determination means of Nakane. The rationale follows as in claim 1 above.

Regarding claim 20, Nakane further discloses wherein the defect detection process corresponds to a verification process (col. 10 lines 5-15).

Regarding claims 27 and 29, Nakane further discloses wherein the defect detection process is performed on an acquired defect (col. 1 lines 26-32). The combination of providing the defect detection process of Nakane to the method of Hashimoto follows as in claims 1 and 12 above.

Regarding claims 28 and 30, Nakane further discloses wherein the defect detection process is performed on an inherent defect (col. 1 lines 28-31).). The combination of providing the defect detection process of Nakane to the method of Hashimoto follows as in claims 1 and 12 above.

Claim 22 is rejected under 35 U.S.C. 103 (a) as being unpatentable over Numata et al (US 6631106) in view of Hashimoto (US 6172955) and further in view of Nakane et al (US 6463021).

Regarding claim 22, Numata discloses a recording method for recording data in a recording area of an information recording medium (col. 2 lines 48-59), comprising: performing a formatting process on the information recording medium (fig. 12), performing a first verification process on at least a portion of the recording area during the formatting process (s2, s3, fig. 12) and performing a second verification process on said portion of the recording area (fig. 13 and col. 4 lines 22-25). Numata fails to disclose wherein the formatting process is interrupted for performing a recording operation. In the same field of endeavor, Hashimoto

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discloses interrupting a formatting process and recording data (col. 7 lines 11-18). It would have been obvious to one of ordinary skill in the art to modify the method disclosed by Numata by interrupting the formatting in order to perform recording as taught by Hashimoto. The rationale is as follows: One of ordinary skill in the art at the time of the applicant's invention would have been motivated to interrupt the formatting in order to perform a recording operation in order to allow the user to record and use a partially formatted disc without having to wait for a full formatting operation to be completed.

Further regarding claim 22, Numata fails to disclose wherein the second verification process is determined to be performed based on whether a predetermined determination criteria has been met. In the same field of endeavor, Nakane discloses determining whether to perform a defect detection process on at least a portion of the recording area in which the data are recorded based on a predetermined determination criterion pertaining to recording attribute information of the data (1, 7, fig. 10 and col. 6 lines 57-65), wherein the defect detection process is performed on an acquired defect (col. 1 lines 26-32). It would have been obvious to one of ordinary skill in the art to modify the method disclosed by Numata in view of Hashimoto by providing the defect detection process of Nakane. The rationale is as follows: One of ordinary skill in the art at the time of the applicant's invention would have been motivated to provide a defect detection process including criteria for when to perform the process in order to minimize interruption of the recording operation for performing defect detection (see Nakane abstract).

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Claims 23 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Numata et al (US 6631106) in view of Hashimoto (US 6172955) and further in view of Takasago (US 4730290) and further in view of Nakane et al (US 6463021).

Regarding claims 23 and 25, Numata discloses a recording method for recording data in a recording area of an information recording medium (col. 2 lines 48-59), comprising: performing a formatting process on the information recording medium (fig. 12), recording data in at least a portion of the recording area (fig. 4). Numata fails to disclose wherein the formatting process is interrupted for performing a recording operation. In the same field of endeavor, Hashimoto discloses interrupting a formatting process and recording data (col. 7 lines 11-18). It would have been obvious to one of ordinary skill in the art to modify the method disclosed by Numata by interrupting the formatting in order to perform recording as taught by Hashimoto. The rationale is as follows: One of ordinary skill in the art at the time of the applicant's invention would have been motivated to interrupt the formatting in order to perform a recording operation in order to allow the user to record and use a partially formatted disc without having to wait for a full formatting operation to be completed.

Further regarding claims 23 and 25, Numata in view of Hashimoto fail to disclose determining whether to perform a verification process on the portion of the recording area based on a criteria, wherein the criteria is whether the size or unit size of the data is less than or equal to a threshold value. In the same field of endeavor, Takasago discloses performing a verification process if the size of the data is less than or equal to a threshold (col. 3 lines 27-60). The first verification process (col. 3 lines 27-36) is performed if the size is less than the value of T2. It would have been obvious to one of ordinary skill in the art to modify the method

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disclosed by Numata and Hashimoto by performing the verification process if the size is less than a threshold as taught by Takasago. The rationale is as follows: One of ordinary skill in the art at the time of the applicant's invention would have been motivated to check the size of the data in order to perform the correct verification process based on the size of the defective area (i.e. replacing only a sector and continuing to record data on the track, or replacing an entire track).

Further regarding claims 23 and 25, Numata in view of Hashimoto and Takasago fail to explicitly disclose a defect detection process being performed on an acquired defect. Numata discloses a defect detection process that occurs after the formatting of the disc, and providing a secondary defect list to log the defects that are detected after formatting (col. 13 lines 56-67 through col. 14 lines 1-19). In the same field of endeavor, Nakane discloses performing a defect detection for an acquired defect, and logging that defect in a secondary defect list (col. 1 lines 25-33). It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify the method disclosed by Numata in view of Hashimoto and Takasago performing a defect detection process for an acquired defect as in Nakane. The rationale is as follows: One of ordinary skill in the art at the time of the applicant's invention would have been motivated to perform a defect detection process on an acquired defect in order to log the defects that occur to degradation of the disc from rewriting.

Claims 3 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hashimoto (US 6172955) in view of Nakane et al (US 6463021) as applied to claims 1, 2, 7, 12, and 20 above, and further in view of Takasago (US 4730290).

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Regarding claims 3 and 14, Hashimoto in view of Nakane fail to disclose wherein: the recording attribute information includes information on a data size of the data; and the determination criterion corresponds to a criterion of determining to perform the defect detection process when the data size of the data is less than or equal to a preset first threshold value. Takasago discloses performing a verification process if the size of the data is less than or equal to a threshold (T2, col. 3 lines 27-60). The first verification process (col. 3 lines 27-36) is performed if the size is less than the value of T2 (and greater than T1). It would have been obvious to one of ordinary skill in the art to base the determination criteria on the size of the data. The rationale is as follows: One of ordinary skill in the art at the time of the applicant's invention would have been motivated to check the size of the data in order to perform the correct verification process based on the size of the defective area (i.e. replacing only one sector and continuing to record data on the track, or replacing an entire track).

Claims 8 and 21 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Hashimoto (US 6172955) in view of Nakane et al (US 6463021) as applied to claims 1, 2, 7, 12 and 20 above and further in view of Wu (US 7080296).

Regarding claims 8 and 21, Hashimoto in view of Nakane fail to disclose wherein the information recording medium conforms to a Mt. Rainier standard. Wu discloses wherein the information conforms to a Mt. Rainier standard (col. 1 lines 42-45). It would have been obvious to one of ordinary skill in the art to modify the medium disclosed by Hashimoto in view of Nakane to have the information conform to a Mt. Rainier standard. The rationale is as follows: One of ordinary skill in the art at the time of the applicant's invention would have

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been motivated to provide a Mt. Rainier standard in order to allocate spare areas ahead of time in order to facilitate defect detection processing.

Response to Arguments

Applicant's arguments filed 12/10/2007 have been fully considered but they are not persuasive.

Regarding applicant's argument that Nakane fails to disclose "*determining whether to perform a defect detection process*," because Nakane always performs a defect detection, this argument is not persuasive. Nakane discloses determining which of the different criteria to use (Step 1, fig. 10) for determining whether to perform a defect detection process (step 7, fig. 10). Nakane does not disclose that defect detection always occurs at Step 7 as asserted by applicant. Rather, Nakane discloses that by using the different criteria, defect detection may not have to be performed and recording does not have to be interrupted unless the data is of the type where a stricter criteria is necessary (such as audio and video data, see Nakane col. 7 lines 3-10). Applicant's argues that this interpretation of Nakane is erroneous (Arguments page 11). The relevant portion of Nakane is reproduced below:

"By using a less strict criteria for the audio or video data, interruption of the audio or video data recording is avoided unless the defect is of such a degree that the resultant sound or picture is intolerable." (Nakane col. 7 lines 3-6)

Therefore, Nakane clearly discloses that for some data where the less strict criteria is used, defect detection does not occur and recording is not interrupted to process the defect detection steps (i.e. assigning spare areas for the defective area).

Applicant cites to a portion of Nakane which discloses that "The result of the defect detection can be used in making a decision as to whether the areas found to be defective should

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be replaced with non-defective areas.” (Nakane Col. 5 lines 15-18), in order to show that the “defects are still detected.” (Arguments page 11). Nakane discloses that only those areas which are read and have failed to pass the predetermined criteria are registered as defective areas. (See Nakane col. 12 lines 51-62 for example). Nakane **does not**, as the applicant contends, register all areas containing any error as defective areas and then use the criteria only to determine whether to perform some other action as a result of the defect detection process. Nakane instead ignores areas having some errors as non-defective areas based on the criteria, and those areas which fail to pass the given criteria are processed as defects with the subsequent defect detection process taking place. (Nakane, col. 13 lines 1-4 emphasis added, disclosing that “The ***presence or absence*** of defect in each sector can be determined... ***according to the defect criteria...***” The subsequent defect detection process which is only initiated for an area failing the criteria includes steps such as registering that area as a defect and assigning an alternate sector for recording that information.

Applicant’s arguments attempt to equate the error detection processes taking place in Nakane with a defect detection process. However, it is important to note that error detection and correction in a system is ***constantly taking place in every system***. With respect to Nakane, one of the criteria used in triggering a defect detection is a limit on tracking error levels. Tracking error, for example, is a function of the device which is continuously and constantly taking place in order to maintain alignment between the read/write head and the tracks on the disc. It is only when this tracking error has exceeded some limit, which is set by Nakane as the predetermined criteria, that a defect detection process is triggered.

Applicant cites to various portions of Nakane which refer to areas containing errors, but

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do not have enough errors to fail the criteria as “defects,” but it is far more important to understand that even though Nakane uses the same term “defects” to refer to these areas, they are not registered by the system as defective, and are instead ignored. (Nakane col. 13 lines 21-26, disclosing that “it is preferable to continue recording operation *ignoring the defects*, since it will improve the performance....,”emphasis added.)

Furthermore, with respect to applicant’s argument that Nakane explicitly teaches against not detecting defects (Arguments page 13), this argument is not persuasive because that section of Nakane is referring to an alternative solution of not detecting *any* secondary defects at any point in the system. Nakane recognizes that this type of solution would fail, and instead discloses only detecting defects based on predetermined criteria.

Applicants arguments with respect to the Nakane reference and independent claim 22 and 23 are not persuasive for the same reasons as discussed above.

Applicant’s arguments with respect to the use of the Nakane reference and the remaining dependent claims are not persuasive for the same reasons as applied above.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

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CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TAWFIK GOMA whose telephone number is (571)272-4206. The examiner can normally be reached on 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Feild can be reached on (571) 272-4090. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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2627

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